

I. The Specification Satisfies All Formal Requirements

The Office Action objects to the specification based on informalities. In particular, the Office Action states that the title of the invention is not descriptive. The title has been amended to obviate the objection. Withdrawal of the objection to the specification is respectfully requested.

II. The Drawings Satisfy All Formal Requirements

The Office Action objects to the drawings based on informalities. In particular, the Office Action asserts that the pattern storing unit and pattern selecting unit, as recited in claim 1, are not shown in the drawings. In addition, the Office Action asserts that the pattern selection output unit, as recited in claim 7, the command generating unit, as recited in claim 8, the state determining unit, as recited in claim 9 and the result output unit, as recited in claim 10, are not shown in the drawings.

As will be understood from the specification, these units are generally incorporated in the electronic control unit (ECU) 60 as shown in Fig. 1. For example, the ROM 64 of the ECU 60 corresponds to the pattern storing unit, and a portion of the CPU 62 that executes steps S112, S118 corresponds to the pattern selecting unit.

Further as shown in Fig. 1, the mode selector switch 74 corresponds to the selection output unit. The dash switch 76 corresponds to the command generating unit. The motor speed sensor 47 corresponds to the state determining unit. The display panel 80 corresponds to the result output unit.

Therefore, all the features identified in the claims are shown in the drawings. Withdrawal of the objection to the drawings is respectfully requested.

III. Claims 1-17 Satisfy the Requirements under 35 U.S.C. §112, second paragraph

Claims 1-17 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

The Office Action asks a series of questions regarding particular terms. These inquiries are addressed as follow:

(a) In claim 1:

(i) The pattern storing unit stores a plurality of output characteristic patterns of power to the drive-shaft. See page 2, lines 11-14 of the specification.

(ii) The output characteristic patterns represent maps of torque with respect to motor speed. See Figs. 3, 5-8, 10 and 11, and page 13, lines 25-29 of the specification.

(iii) The characteristics represent time-varying torque demand data. The power patterns follow torque maps. See page 7, lines 9-13 of the specification.

(iv) The motor supplies and receives electric power to and from a battery via an inverter circuit. See page 5, lines 11-10, 22-23 of the specification.

(v) Generated power is transmitted to drive shaft by an automatic transmission. See page 6, lines 6-8 of the specification.

(b) In claim 2:

(i) Receiving power demand represents a function of the electronic control unit (ECU). See page 6, lines 12-13. Power demand can be received from an acceleration position sensor 72, a mode selector switch 74 and/or a dash switch 76.

(ii) Power level corresponds to watts. Voltage corresponds to power divided by electric current labeled volts.

(c) In claim 5, high energy efficiency corresponds to reducing engine load for brief demand in acceleration. See page 12, lines 11-18 and page 13, lines 20-24 of the specification.

(d) In claim 6:

- (i) Different patterns are selected via steps executed by the CPU as shown in the Fig. 2 flowchart. See example step S112 on page 12, lines 6-8 of the specification.
- (ii) The pattern storing unit corresponds to a Random Access Memory (RAM), and the RAM stores the data, while the read-only memory (ROM) maintains the computer commands. The ROM loads the commands to the RAM upon command execution. See page 12, lines 19-27 of the specification.
- (e) In claim 7, the output unit produces an output characteristic pattern via a display panel. See page 12, lines 28-31 of the specification.
- (f) In claim 8,
- (i) The electric motor can be used beyond the rated capacity for brief periods. See page 12, lines 13-14 of the specification. The period durations correspond to the torque maps in Figs. 3, 5-8, 10 and 11.
- (ii) The predetermined output to the output characteristic pattern corresponds to torque maps in which the outer region of the engine and motor are set. See page 13, lines 13-15 of the specification.
- (g) In claim 9, the motor can be selected to exceed rated value by the power output apparatus based on demand from various inputs. See page 12, lines 11-18 of the specification.
- (h) In claim 10, the resulting output is not limited to specific forms or units. See page 12, lines 28 - page 14, line 9.

As a general matter, the term "power" as recited in the claims corresponds to force-distance-per-time for rotating a drive shaft of a vehicle. With regard to patterns, Figs 5-8 show output characteristic patterns plotted in relation to torque and motor speed. The patterns or characteristics are not related to the electrical properties of the motor, but rather to the driving modes of the vehicle.

Applicants respectfully assert that all features in the claims are definite. Withdrawal of the rejection under 35 U.S.C. §112, second paragraph is respectfully requested.

IV. Claims 1-17 Define Patentable Subject Matter

The Office Action rejects claims 1-5, 8, 11, 12 and 15-17 under 35 U.S.C. §103(a) over Takaoka *et al.* (U.S. Patent 6,166,449) in view of Kiuchi *et al.* (U.S. Patent 5,867,009); and rejects claims 6, 7, 9, 10, 13 and 14 under 35 U.S.C. §103(a) over Takaoka and Kiuchi and further in view of Ibamoto *et al.* (U.S. Patent 5,938,712). These rejections are respectfully traversed.

Takaoka, Kiuchi and Ibamoto do not teach or suggest a power output apparatus operable to generate power from at least an electric motor to a drive shaft, including a pattern storing unit that stores a plurality of output characteristic patterns in which power is generated to the drive shaft, a pattern selecting unit that selects one of said plurality of output characteristic patterns stored in the pattern storing unit, and a drive controller that controls driving of at least the electric motor so that power that is within a range of the selected output characteristic pattern is generated to the drive shaft, as recited in claim 1.

Instead, Takaoka discloses a power output apparatus with an accumulator of electrical energy regenerated by a motor via a generator. See column 2, lines 24-46 of Takaoka. Further, Kiuchi discloses an electric power generating apparatus, operating by fuzzy reasoning memory and a plurality of fuzzy rules. See column 2, lines 29-54 of Kiuchi. In addition, Ibamoto discloses a drive shaft torque control apparatus for controlling engine and transmission. See column 3, lines 36-52 of Ibamoto. There is no motivation to combine the references. Also, even a combination of the references fail to teach or suggest the features recited in claim 1. These arguments also apply to claims 12, 16 and 17.

A *prima facie* case of obviousness for a §103 rejection requires satisfaction of three basic criteria: there must be some suggestion or motivation either in the references or

knowledge generally available to modify the references or combine reference teachings, a reasonable expectation of success, and the references must teach or suggest all the claim limitations. See MPEP §706.02(j). The applied references fail on all three criteria.

For at least these reasons, it is respectfully asserted that the claims are now in condition for allowance. Thus, Applicants respectfully request withdrawal of the 35 U.S.C. §103 rejections of claims 1-17.

V. Conclusion

In view of the foregoing remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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Attachment:
Appendix

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<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
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APPENDIX

Changes to Title:

The following is a marked-up version of the amended title:

POWER OUTPUT APPARATUS USING DIFFERENT TORQUE AND SPEED PATTERN
CHARACTERISTICS AND CONTROL METHOD THEREOF